

ACTIVE ALIGNMENT SYSTEM FOR FREE SPACE OPTICS

ABSTRACT

An optical transceiver antenna has a pair of cartridges supported by a pan/tilt mount. A lens at forward end of a cartridge interfaces light between an end of a light relay element retained by an axial deflection device and free space. The forward end of a cartridge also terminates first ends of actuator wires that are mutually rotationally displaced a distance of 90° from one another in a plane normal to a boresight axis of the antenna. The actuator wires have second wire terminations at the axial deflection device which are mutually rotationally displaced a distance of 90° from one another in a plane passing through the axial deflection device normal to the boresight axis. Heating currents are supplied to the actuator wires, causing their lengths to change, thereby flexing the axial deflection device and light relay element off boresight.